CLAIMS:

1. A variable lens (100; 300; 400; 500) having an optical axis (90), the lens comprising a plurality of annuli (120, 130, 140, 150, 160, 170; 420, 430; 520, 530) located around the optical axis, each annulus having respective side walls (210a, 210b) defining a chamber (280) containing a first fluid (220) and a second fluid (230) in contact over a meniscus (225), the fluids (220, 230) being substantially immiscible and having different refractive indices; and
wherein at least one of the annuli (140) comprises at least one electrode (240) for altering the configuration of the meniscus (225).

2. A lens as claimed in claim 1, wherein the meniscus (225) within each annulus extends between a respective side wall (210a) adjacent the optical axis (90) and a respective side wall (210b) distant from the optical axis.

3. A lens as claimed in claim 2, wherein the configuration of the meniscus (225) is altered by changing the contact angle ($Ø_1$, $Ø_2$) of the meniscus on at least one of the side walls.

4. A lens as claimed in claim 2 or claim 3, wherein the contact angle ($Ø_1$) the meniscus (225) makes with the adjacent side wall (210a) and the contact angle ($Ø_2$) the meniscus makes with the distant side wall (210b) are both independently controllable.

5. A lens as claimed in any one of the above claims, wherein the annuli (120, 130, 140, 150, 160, 170; 420, 430; 520, 530) are at least one of circular, elliptical, rectangular and square.

6. A lens as claimed in any one of the above claims, wherein the annuli (120, 130, 140, 150, 160, 170; 420, 430; 520, 530) are concentric.

7. A lens as claimed in claim 6, wherein the optical axis (90) extends through a common centre of the annuli (120, 130, 140, 150, 160, 170; 420, 430; 520, 530).

8. A lens as claimed in any one of the above claims, wherein the first fluid (220) and the second fluid (230) have substantially the same density.

9. A lens as claimed in any one of the above claims, further comprising a flexible fluid reservoir connected to at least one of said chambers (280).

10. A lens as claimed in any one of the above claims, wherein at least two of the annuli (120, 130, 140, 150, 160, 170; 420, 430; 520, 530) each comprise a respective electrode (240), the respective electrodes (240) being electrically connected.

11. A lens as claimed in any one of the above claims, wherein at least one of said annuli (120, 130, 140, 150, 160, 170; 420, 430; 520, 530) is compartmentalised by at least one dividing wall comprising at least one electrode.

12. A device comprising a variable lens (100; 300; 400; 50), the variable lens having an optical axis (90), the lens comprising a plurality of annuli (120, 130, 140, 150, 160, 170; 420, 430; 520, 530) located around the optical axis, each annulus having respective side walls (210a, 210b) defining a chamber (280) containing a first fluid (220) and a second fluid (230) in contact over a meniscus (225), the fluids (220, 230) being substantially immiscible and having different refractive indices; and
wherein at least one of the annuli (140) comprises at least one electrode (240) for altering the configuration of the meniscus (225).

13. A device as claimed in claim 12, further comprising a voltage control system for applying a voltage to said electrode (240) so as to achieve a desired meniscus configuration.

14. A device as claimed in claim 12 or claim 13, wherein the voltage is determined by measuring a capacitance within the lens.

15. A device as claimed in any one of claims 12 to 14, wherein the device comprises at least one of: a solar cell; a cover for an optical display unit; an optical display unit; a light projector; and an infrared imaging device.

16. A method of manufacturing a variable lens (100; 300; 400; 500) having an optical axis (90), the method comprising: providing a plurality of annuli (120, 130, 140, 150, 160, 170; 420, 430; 520, 530) located around the optical axis (90), each annulus having respective side walls (210a, 210b) defining a chamber (280);
filling the chamber (280) with a first fluid (220) and a second fluid (230) in contact over a meniscus (225), the fluids (220, 230) being substantially immiscible and having different refractive indices; and
providing at least one of the annuli (140) with at least one electrode (240) for altering the configuration of the meniscus (225).

17. A method of manufacturing a device comprising a variable lens (100; 300; 400; 500), the method comprising: providing a plurality of annuli (120, 130, 140, 150, 160, 170; 420, 430; 520, 530) located around the optical axis (90), each annulus having respective side walls (210a, 210b) defining a chamber (280) containing a first fluid (220) and a second fluid (230) in contact over a meniscus, the fluids being substantially immiscible and having different refractive indices; and
wherein at least one of the annuli (140) comprises at least one electrode (240) for altering the configuration of the meniscus (225).